

### **REMARKS**

Responsive to the Office Action mailed August 23, 2005, Applicant has studied the Examiner's comments and the cited art. Claims 1-20 are currently pending; following entry of this Amendment, claims 1-47 remain pending. In view of the following remarks, Applicant respectfully submits that the application is in condition for allowance.

#### **Amendments**

Applicant has amended the specification to resolve minor non-substantive informalities discovered during Applicant's review. The amendments do not add new matter.

Applicant has amended claims 1, 2, 10, and 13-16 to consistently refer to the structure floating at a surface of an ocean as a "floating structure." The amendment does not change the scope of the claim.

Applicant has amended claims 1, 4, 10, 11, 12, and 13 to broaden the scope of the claim by removing the limitation of "pressurized" when referring to the drilling fluid. Applicant has also added new dependent claims 28-30 that recite the pressurization limitation, depending from claims 1, 10, and 13, respectively.

Applicant has also amended claims 1, 2, 5, and 18 to indicate that at least a portion of the housing is positioned above the surface of the ocean. Applicant has also amended claims 3, 8, 11, 13, and 19 to broaden the scope of the claim by removing references to "predetermined."

Applicant has amended claims 3, 8, 11, and 13 to broaden the downhole location of the mud cap. Applicant has amended claim 15 to broaden the description of the positioning of the assembly by deleting the word "removably." Applicant has also amended claim 17 to clarify the nature of the use of the flexible conduit.

Applicant has further added new claims 21-47 to further claim the subject matter disclosed by the Specification.

#### **Claim Rejections Under 35 U.S.C. § 102**

Claims 1, 2, 4-7, 9, 10, 12, 14-18, and 20 are rejected under 35 U.S.C. § 102(a) as being anticipated by Hannegan et al., U.S. Patent No. 6,262,982 (the "Hannegan '982 Patent"). Applicant respectfully traverses the rejections.

With respect to independent claims 1, 5, 10, 14, and 15, the Hannegan '982 Patent does not disclose moving drilling fluid from the floating structure into an annulus of the riser surrounding the rotatable tubular, as in Applicant's claimed subject matter. Such a flow is the reverse of the circulation disclosed by the Hannegan '982 Patent. The Hannegan '982 Patent discloses the conventional drilling fluid flow: pumping drilling fluid down the rotatable tubular or drill string, returning at least some of the fluid back up the annulus around the tubular formed

by the casing of the riser, then discharging the fluid out to mud pits.<sup>1</sup> The Hannegan '982 Patent nowhere discloses pumping the drilling fluid down this annulus.

In addition, the Hannegan '982 Patent does not disclose moving the drilling fluid through the flexible conduit *from* the floating structure. Flexible conduits 30 and 32 of the Hannegan '982 Patent are disclosed for discharge of fluid *from* the housing, through connectors 16 and 18 that include features to "reduce erosion caused by fluid discharged from the seal housing."<sup>2</sup> For these reasons, Applicant respectfully requests withdrawal of the rejections.

Further with respect to claim 15, the Hannegan '982 Patent also does not disclose the housing having an opening "to receive the drilling fluid *from* the structure." Instead, the Hannegan '982 Patent discloses two housing openings 20A and 20B, to which connectors 16 and 18 are attached for discharge of drilling fluid from the housing. For this additional reason, Applicant respectfully requests withdrawal of the rejection.

Rejected dependent claims 2, 4, 6-7, 9, 16-18 and 20 depend from allowable independent claims 1, 5, and 15 and are therefore also allowable. For at least this reason, Applicant respectfully requests withdrawal of the rejections.

In addition, with respect to claims 4, 9, 12, and 20, the Hannegan '982 Patent similarly does not disclose moving the pressurized drilling fluid down the annulus and returning a portion of the pressurized drilling fluid up the rotatable tubular. As shown above, the Hannegan '982 Patent discloses the conventional technique of pumping drilling fluid down the rotatable tubular, instead of returning fluid up the tubular, as claimed in the present invention. For this additional reason, Applicant respectfully request withdrawal of the rejections.

With respect to claim 14, the Hannegan '982 Patent also does not disclose moving a portion of the drilling fluid up the rotatable tubular to a floating structure. As shown above, the Hannegan '982 Patent instead discloses pumping drilling fluid from the floating structure and down the rotatable tubular. For this additional reason, Applicant respectfully requests withdrawal of the rejection.

With respect to new claims 21-27, as shown above, the Hannegan '982 Patent does not disclose "pumping the drilling fluid *from* the floating structure through a flexible conduit between the floating structure and the riser" or "moving the drilling fluid *from* the floating structure through an annulus of the riser surrounding the rotatable tubular to a downhole location." Nor does the Hannegan '982 Patent disclose "forming a mud cap at the downhole location," as the Office Action admits.<sup>3</sup> For these reasons, Applicant respectfully submits new claims 21-27 are allowable.

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<sup>1</sup> See, e.g., Col. 2, lines 64-66; Col. 4, lines 48-50, and claims 6, 12, 14, 20, 21, and 26.

<sup>2</sup> Col. 4, lines 34-42.

<sup>3</sup> Paper 20050815, p. 3.

With respect to new claims 31–37, as shown above, the Hannegan '982 Patent does not disclose moving the drilling fluid down the annulus and up the rotatable tubular, as in Applicant's claimed subject matter. For this reason, Applicant respectfully submits new claims 31–37 are allowable.

With respect to new claims 38–47, as shown above, the Hannegan '982 Patent does not disclose "communicating a drilling fluid from the floating structure to the housing via a flexible conduit" or "moving the drilling fluid through the housing and into an annulus of the riser surrounding the rotatable tubular." Nor does the Hannegan '982 Patent disclose "creating a mud cap at a downhole location," as the Office Action admits<sup>4</sup>. For these reasons, Applicant respectfully submits new claims 38–47 are allowable.

**Claim Rejections Under 35 U.S.C. § 103**

Claims 3, 8, 11, 13, and 19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hannegan et al., U.S. Patent No. 6,262,982 (the "Hannegan '982 Patent"), in view of Hale, U.S. Patent No. 5,076,364. Applicant respectfully traverses the rejections.

With respect to independent claim 13, the Office Action admits that the Hannegan '982 Patent fails to disclose the formation of a mud cap.<sup>5</sup> The Office Action attempts to use Hale to fill this gap.

First, the Office Action fails to provide a proper justification for combining the Hannegan '982 Patent and Hale. The Office Action argues that it would be obvious to combine the two references "for the taught purpose of Hale of eliminating or decreasing the amount of hydrates formed."<sup>6</sup> Hale is directed to dealing with a problem that occurs during "the temporary abandonment of a drilling well in an offshore environment,"<sup>7</sup> or when temporarily shutting in a producing well,<sup>8</sup> while, as the title of the Hannegan '982 Patent makes clear, the Hannegan '982 Patent is directed to an apparatus and method for use "while drilling."<sup>9</sup> Nothing in the Hannegan '982 Patent or in Hale suggests that formation of hydrates is a problem while drilling. Instead, Hale discloses that "the art is in need of a process for dealing with the temporary abandonment of a drilling well in an offshore environment, or a producing well is temporarily shut-in, and how to avoid gas hydrate formation under such conditions."<sup>10</sup> Hale describes injecting an alcohol into a drilling mud carrier, which "becomes what is known in the art as a 'pill' which is injected into the well before the well is abandoned."<sup>11</sup> In "producing wells that are temporarily shut-in," the

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<sup>4</sup> Paper 20050815, p. 3.

<sup>5</sup> Paper 20050815, p. 3.

<sup>6</sup> Paper 20050815, pp. 3–4.

<sup>7</sup> Col. 1, lines 38–40.

<sup>8</sup> Col. 1, lines 40–42.

<sup>9</sup> Hannegan, Title.

<sup>10</sup> Hale, Col. 1, lines 38–42.

<sup>11</sup> Hale, Col. 1, line 61–Col. 2, line 3.

pill can be injected at various points.<sup>12</sup> Therefore, there would be no justification to combine the relied-upon references. For these reasons, Applicant respectfully requests withdrawal of the rejection.

Second, the “pill” of Hale is not a mud cap as understood by one of ordinary skill in the art and is not formed “at a downhole location,” as in Applicant’s claimed subject matter or as disclosed in Applicant’s Specification.<sup>13</sup> Because water is produced throughout a well, potentially allowing the formation of hydrates throughout the well, the pill of Hale must mix with water throughout the well to be effective. Hale is directed to injecting an alcohol composition that will mix with water throughout the well, including the annulus, drill string, and blowout preventer. Thus Hale not only fails to teach or suggest forming a mud cap, much less “at a downhole location,” as in Applicant’s claimed subject matter, Hale teaches away from forming the pill in such a location. For these additional reasons, Applicant respectfully requests withdrawal of the rejection.

Rejected dependent claims 3, 8, 11, and 19 depend from allowable independent claims 1, 5, 10, and 15 and are therefore also allowable. For at least this reason, Applicant respectfully requests withdrawal of the rejections.

In addition, as shown above with respect to claim 13, neither the Hannegan ’982 Patent nor Hale discloses the formation of a mud cap. For this additional reason, Applicant respectfully requests withdrawal of the rejections.

In addition to the above reasons for allowance, with respect to new claims 21–27 and 38–47, neither the Hannegan ’982 Patent nor Hale discloses the formation of a mud cap, as shown above with respect to claim 13. For at least this reason, Applicant respectfully submits that new claims 21–27 and 38–47 are allowable.

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<sup>12</sup> Hale, Col. 2, lines 3–5; Col. 2, lines 53–55; Col. 12, lines 45–59; Col. 15, lines 3–6; Col. 22, lines 1–3; and claim 9.

<sup>13</sup> Specification, paras. [0009]–[0010].

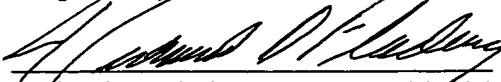
**CONCLUSION**

Applicant respectfully submits that all issues and rejections have been adequately addressed, that all claims are allowable, and that the case should be advanced to issuance.

If the Examiner has any questions or wishes to discuss the claims, Applicant encourages the Examiner to call the undersigned at the telephone number indicated below.

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Respectfully submitted,



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